



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

CB

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,136	04/01/2004	Tsuyoshi Kaneko	119105	8470
25944	7590	09/22/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			RUDE, TIMOTHY L	
			ART UNIT	PAPER NUMBER
			2871	
DATE MAILED: 09/22/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/814,136		KANEKO, TSUYOSHI	
	Examiner		Art Unit	
	Timothy L. Rude		2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 14-16 and 19-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 12, 13, 17, 18, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 8-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 4-6, 14-16, and 19-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention or species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 07 February 2006.

Applicant's traverse in the reply filed on 07 February 2006 is acknowledged. The traversal is on the ground(s) that the species are so related that there would be no serious burden on the examiner. This is not found persuasive because although the search would overlap in part, a determination as to patentability of the elected species would not serve to make a patentability determination of any of the non-elected species which would necessitate a great deal of additional search for each non-elected species.

The requirement is still deemed proper and is therefore made FINAL.

Claims

Claims 1, 3, and 7 are amended. Claims 27 and 28 are added.

This application contains claims 4-6, 14-16, and 19-26 drawn to an invention nonelected with traverse in Paper No. 07 February 2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 7, 12, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanneman USPAT 6,532,317 B2.

As to claim 1, Hanneman discloses a connection structure between optical fibers, comprising: a substrate a plurality of optical fibers, 30 and 29, each having end surfaces; a base member [portion below 32] provided over the substrate [col. 2, lines

10-55]; and a connecting part, 32, provided on a top surface of the base member and joined to each end surface of the plurality of optical fibers [col. 12, lines 3-68].

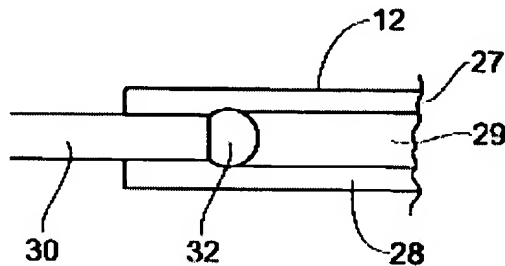


Fig. 4

Hanneman does not explicitly disclose a cylindrical base member.

However, Hanneman discloses a connection structure that is substantially circular which would necessarily rest on a circular upper surface of a base member, and Applicant acknowledges that the shape of the base member of Applicant's invention may be any shape so long as it has a top surface on which the connecting part can be provided (specification, page 3, [0068]).

Hanneman is evidence that workers of ordinary skill in the art would find the reason, suggestion, or motivation to add a base member of most any shape with a top surface on which a circular (ball shaped or cylindrical shaped) connecting part can be provided (which would naturally include a cylindrical shape very commonly used in the art) to provide satisfactory support for the connecting part.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Hanneman with a base member of most any shape with a top surface on which a circular (ball shaped or

cylindrical shaped) connecting part can be provided (which would naturally include the commonly used cylindrical shape) of Hanneman to provide satisfactory support for the connecting part.

As to claim 2, Hanneman discloses the connection structure between optical fibers according to claim 1 wherein the plurality of optical fibers are provided over the substrate.

As to claim 3, Hanneman discloses the connection structure between optical fibers according to claim 1, the top surface of the base member being a flat surface [col. 2, lines 10-55].

As to claim 7, Hanneman discloses the connection structure between optical fibers according to claim 1 above wherein, the base member being formed monolithically with the substrate [same substrate, please note Applicant defines base member in the specification at [0012] "Here, "base member" refers to a member having a top surface where the connecting part can be provided, and "top surface of a base member" refers to a surface where the connecting part is provided. The top surface of the base member may be a flat surface or may be a curved surface as long as the connecting part can be provided thereon."] Examiner considers the base member may simply be that portion of the flat substrate that happens to be directly below the connecting part.

As to claim 12, Hanneman discloses the connection structure between optical fibers according to claim 1 above wherein, a refractive index of the connecting part being larger than a refractive index of the clad of the plurality of optical fibers [clad is lower, col. 12, lines 1-20].

As to claim 13, Hanneman discloses the connection structure between optical fibers according to claim 1 above.

Hanneman does not explicitly disclose a connection structure with the refractive index of the connecting part being almost equal to a refractive index of the core of the plurality of optical fibers.

Hanneman teaches the need to control the index of refraction differences between the optical components [core, cladding, etc] in order to produce a satisfactory connection structure with good optical performance [col. 12, lines 1-68 and elsewhere].

Hanneman is evidence that workers of ordinary skill in the art would find the reason, suggestion, or motivation to add a connection structure with the refractive index of the connecting part being almost equal to a refractive index of the core of the plurality of optical fibers to control the index of refraction differences between the optical components in order to produce a satisfactory connection structure with good optical performance. Index of refraction matching in an optical path has been well known in the art for a very long time prior to the claimed invention.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Hanneman with a connection

structure with the refractive index of the connecting part being almost equal to a refractive index of the core of the plurality of optical fibers of Hanneman to control the index of refraction differences between the optical components in order to produce a satisfactory connection structure with good optical performance.

As to claim 17, Hanneman discloses the connection structure between optical fibers according to claim 1 above wherein the connecting part being formed by hardening a liquid material that is hardened by applying energy [Abstract and col. 12, lines 1-60].

As to claim 18, Hanneman discloses the connection structure between optical fibers according to claim 17 above wherein the connecting part being formed of ultraviolet curing resin [col. 12, lines 40-50].

As to claim 28, Hanneman discloses the connection structure between optical fibers according to claim 1 wherein the connecting part is contacting the entire upper surface of the cylindrical base member.

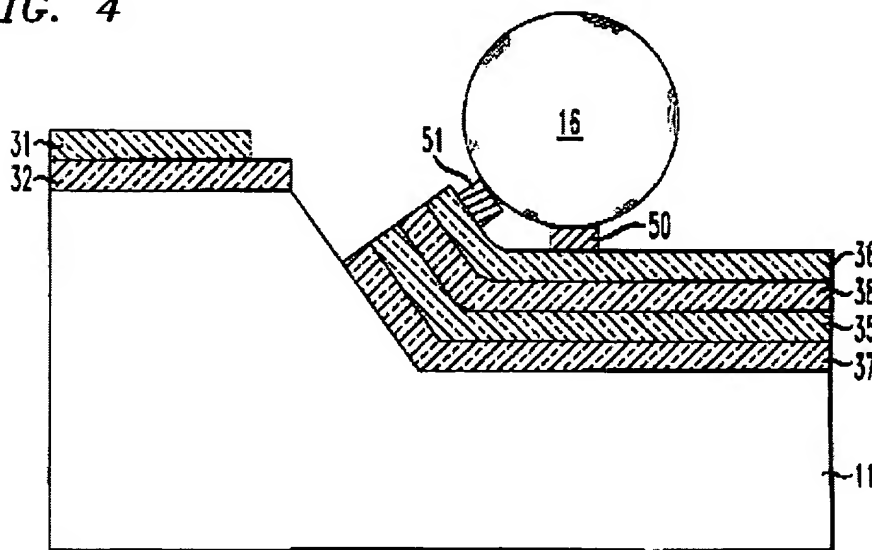
Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanneman in view of Brady et al (Brady) USPAT 6,034,405.

As to claim 27, Hanneman discloses the connection structure between optical fibers according to claim 1,

Hanneman does not explicitly disclose the cylindrical base member having a diameter smaller than the diameter of the connecting part.

Brady teaches the use of a base member, 50, having a diameter smaller than the diameter of the connecting part, 16, as a member suitable for his invention of making a strong bond to a silicon substrate [abstract].

FIG. 4



Brady is evidence that workers of ordinary skill in the art would find the reason, suggestion, or motivation to add a base member having a diameter smaller than the

diameter of the connecting part as a member suitable for his invention of making a strong bond to a silicon substrate.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Hanneman with a base member having a diameter smaller than the diameter of the connecting part of Brady as a member suitable for his invention of making a strong bond to a silicon substrate.

Allowable Subject Matter

Claims 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 8, relevant prior art of record did not disclose, alone or in combination, the connection structure between optical fibers as claimed comprising only an end surface of a core being joined to the connecting part in at least one of the plurality of optical fibers.

The closest prior art is Hanneman who discloses the connection structure above. However, no prior art was found with proper motivation to combine to comprise the

claimed connection structure further comprising only an end surface of a core being joined to the connecting part in at least one of the plurality of optical fibers.

As to claims 9-11, they are directly dependent upon claim 8 with allowable subject matter above.

References cited but not applied are relevant to the instant Application.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

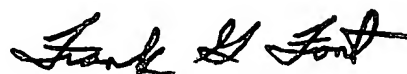
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L. Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Timothy L Rude
Examiner
Art Unit 2871

tlr



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800